

ADVANCED MANUFACTURING PROGRAM INCREASES PRODUCTION

ABOUT DEEP SPRINGS TECHNOLOGY, LLC. Founded in 2000, Deep Springs Technology (DST) is the world leader in small hollow sphere manufacturing. The family owned company, located in Toledo, Ohio, manufactures high quality shells for industrial, commercial and military applications. Their shells can be fabricated from various materials such as metal, glass or ceramics, including silicon carbide. Additionally, these shells can be fabricated in custom shapes, including spherical, right cylindrical, flat oval, or hexagonal, and can hermetically encapsulate virtually any gas or gas mixture. Size of shells can range from 0.5mm to 3.0mm diameter (larger or smaller are possible). DST shells are currently being used in armor plating, buoyancy, thermal, and other applications.

THE CHALLENGE. Deep Springs Technology needed to meet increasing demand for their strong, lightweight and chemically inert advanced material. They reached out to CIFT, with whom they have a long standing relationship, for assistance to guide them through the Advanced Manufacturing Program process, as well as coordination of product testing, process scaling, and work with other companies on fabrication of the production sized forming system as well as tolling services, sintering services, and materials.

MEP CENTER'S ROLE. CIFT coordinated a test with an Ohio company that builds centrifuges for removal of ceramic material from process slurry, and wastewater produced when the cleaning coating systems drum. It also researched equipment for processing the expendable cores required for hollow shell production, and reviewed options of facility layouts that would be able to handle increased production. With CIFT's assistance, Deep Springs Technology was able to increase production capacity for the hollow spheres. Ultimately, the production capacity for the sphere increased from a small test system to a production sized system that now produces over a cubic meter of hollow spheres per day.

"When we were a startup twenty years ago, EISC/CIFT mentored us and helped us to win SBIRS with DoD and NSF. We have a long history of working with the Ohio MEP through EISC and now CIFT. "

-Carol Wedding, President

RESULTS



\$840,000 cost savings/
\$175,000 plant equipment savings



\$1,000,000 products and processes (P & P)



\$370,000 increased sales/
\$188,000 retailed sales



3 increased jobs/4 retained jobs



\$840,000 savings on investments

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Ohio

Manufacturing
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